

## **REMARKS**

### **I. Status of the Application**

Claims 1-17 and 24 are pending in the application and stand rejected. New claim 55 is added. Support for the amendment can be found throughout the application as original filed, including, e.g., at paragraph [0062] of the published application. It is believed that no fee is due for new claim 55.

Applicant requests reconsideration of the claim rejections and re-examination of the application in view of the amendments presented above and the following remarks.

### **II. Claims 1-3, 5-7, 11-13, 15, and 24 are Patentable over Ivory**

Claims 1-3, 5-7, 11-13, 15, and 24 stand rejected under 35 USC § 102(b) over Ivory (US 6,277,258). This rejection is respectfully traversed.

The invention defined by the subject claims is patentable over Ivory because, with respect to each of the subject claims, Ivory does not disclose an electrophoresis device comprising all of the elements required by the claim. Ivory does not disclose an electrophoresis device comprising a molecular sieve in a separation chamber, where the molecular sieve is operative to shift the location of a focused band of analyte under a given set of focusing process parameters to a location different from the location at which the stationary focused band of analyte forms without a molecular sieve under the same given set of focusing process parameters. Thus, Ivory fails to disclose the molecular sieve required by each of independent claims 1 and 24.

Although Ivory discloses possible fluid mediums for a separation chamber, not once does Ivory mention a “molecular sieve.” Further, Ivory provides no suggestion or reason to select a

specific fluid medium over another, and therefore fails to recognize the benefits of utilizing a molecular sieve. Ivory additionally fails to disclose or discuss utilizing a molecular sieve or fluid medium to shift the location at which a stationary focused band of analyte forms in a separation chamber of an electrophoresis device.

Ivory teaches that the operator of an electrophoretic device can shift the location of a focused band of analyte, as noted by the Examiner, but Ivory only shifts the location of the analyte by altering the electric field gradient of the device. See col. 3, lines 23-37, see also cols. 5, 11, and 13 of Ivory. In contrast, the molecular sieve of the pending application shifts the focusing location of a charged analyte so as to avoid, or separate, overlapping analyte bands. See paragraph [0064] of the published application. Therefore, Ivory fails to disclose the molecular sieve of the subject claims.

Ivory additionally fails to disclose the significant advantages identified in the instant specification, of utilizing a molecular sieve to shift the location at which a stationary focused band of analyte forms. The specification of the pending application identifies, for example, that analytes which would otherwise focus at the same location can instead be focused at different locations in the separation chamber due to the use of the molecular sieve. See paragraph [0062] of the published application. By focusing analytes at distinct locations in the separation chamber, a targeted analyte may be drawn off from the chamber via an outlet port without also drawing off other bands of focused analytes. See paragraph [0064]. Additionally, a molecular sieve may be selected for a particular concentration of analyte based on the size of the molecules to be separated and focused, the pH at which the system is operated, and other such relevant factors. See paragraph [0062]. Ivory fails to teach or suggest such embodiments and advantages. Therefore, Ivory fails to disclose the molecular sieve of the subject claims, and

Applicant requests that the rejection be reconsidered and withdrawn.

**III. Claim 4 is Patentable over Ivory in view of Ivory B**

Claim 4 stands rejected under 35 USC § 103(a) over Ivory in view of Ivory B (US 5,298,143). This rejection is respectfully traversed.

The invention defined by claim 4 is patentable over Ivory in view of Ivory B (US 5,298,143), because the references do not teach or suggest an electrophoresis device with a molecular sieve in the separation chamber operative to shift the location of a focused band of analyte under a given set of focusing process parameters.

Claim 4 depends from claim 1 (via claim 3) and, as previously discussed, Ivory fails to disclose the electrophoresis device defined by independent claim 1. Ivory B, either alone or in combination with Ivory, fails to disclose an electrophoresis device comprising a molecular sieve operative to shift the location of a focused band of analyte under a given set of focusing process parameters. Therefore, Ivory B fails to cure the deficiencies of Ivory, and Applicant requests reconsideration and withdrawal of the rejection.

**IV. Claims 8-10 are Patentable over Ivory in view of Ivory B, Koegler, and Li**

Claims 8-10 stand rejected under 35 USC § 103(a) over Ivory in view of Ivory B, Koegler (“Focusing proteins in an electric field gradient”) and Li (“Capillary Electrophoresis: principles, practice and applications”). This rejection is respectfully traversed.

The invention defined by claims 8-10 is patentable over Ivory in view of Ivory B, Koegler, and Li, because the references do not teach or suggest an electrophoresis device with a molecular sieve in the separation chamber operative to shift the location of a focused band of analyte under a given set of focusing process parameters.

Claims 8-10 depend from claim 1 and, as previously discussed, Ivory fails to disclose the electrophoresis device defined by independent claim 1. Ivory B, Koegler, and Li, either alone or in combination with Ivory, fail to disclose an electrophoresis device comprising a molecular sieve operative to shift the location of a focused band of analyte under a given set of focusing process parameters. Therefore, Ivory B, Koegler, and Li each fail to cure the deficiencies of Ivory, and Applicant requests reconsideration and withdrawal of the rejection.

**V. Claim 14 is Patentable over Ivory in view of Anderson**

Claim 14 stands rejected under 35 USC § 103(a) over Ivory in view of Anderson (US 5,993,627). This rejection is respectfully traversed.

The invention defined by claim 14 is patentable over Ivory in view of Anderson, because the references do not teach or suggest an electrophoresis device with a molecular sieve in the separation chamber operative to shift the location of a focused band of analyte under a given set of focusing process parameters.

Claim 14 depends from claim 1 (via claim 11) and, as previously discussed, Ivory fails to disclose the electrophoresis device defined by independent claim 1. Anderson, either alone or in combination with Ivory, fails to disclose an electrophoresis device comprising a molecular sieve operative to shift the location of a focused band of analyte under a given set of focusing process parameters. Therefore, Anderson fails to cure the deficiencies of Ivory, and Applicant requests reconsideration and withdrawal of the rejection.

**VI. Claim 16 is Patentable over Ivory in view of Menchen**

Claim 16 stands rejected under 35 USC § 103(a) over Ivory in view of Menchen (US 5,759,369). This rejection is respectfully traversed.

The invention defined by claim 16 is patentable over Ivory in view of Menchen, because the references do not teach or suggest an electrophoresis device with a molecular sieve in the separation chamber operative to shift the location of a focused band of analyte under a given set of focusing process parameters.

Claim 16 depends from claim 1 (via claim 11) and, as previously discussed, Ivory fails to disclose the electrophoresis device defined by independent claim 1. Menchen, either alone or in combination with Ivory, fails to disclose an electrophoresis device comprising a molecular sieve operative to shift the location of a focused band of analyte under a given set of focusing process parameters. Therefore, Menchen fails to cure the deficiencies of Ivory, and Applicant requests reconsideration and withdrawal of the rejection.

**VII. Claim 17 is Patentable over Ivory in view of Wilson**

Claim 17 stands rejected under 35 USC § 103(a) over Ivory in view of Wilson (US 5,019,232). This rejection is respectfully traversed.

The invention defined by claim 17 is patentable over Ivory in view of Wilson, because the references do not teach or suggest an electrophoresis device with a molecular sieve in the separation chamber operative to shift the location of a focused band of analyte under a given set of focusing process parameters.

Claim 17 depends from claim 1 and, as previously discussed, Ivory fails to disclose the electrophoresis device defined by either independent claim 1 or 24. Wilson, either alone or in

combination with Ivory, fails to disclose an electrophoresis device comprising a molecular sieve operative to shift the location of a focused band of analyte under a given set of focusing process parameters. Therefore, Wilson fails to cure the deficiencies of Ivory, and Applicant requests reconsideration and withdrawal of the rejection.

#### **VIII. New Claim 55 is Patentable**

Applicant submits that new claim 55 is patentable over the cited art. Claim 55 requires that “the molecular sieve is chosen such that the amount to which the stationary focused band of analyte is shifted for the given set of focusing conditions varies with the size or molecular weight of the analyte.” Ivory fails to utilize a molecular sieve, fails to recognize the benefits of utilizing a molecular sieve and additionally fails to provide any teaching on how a specific fluid medium is selected. Further, Ivory B, Koegler, Li, Anderson, Menchen, and Wilson each fail to disclose a molecular sieve. Therefore, Applicant submits that claim 55 is patentable and should be allowed by the Examiner.

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**IX. Conclusion**

Applicant requests that the amendments presented above be entered and that the application be reconsidered. Applicant submits that all claims pending in the application are now in condition for allowance.

A petition for a three-month extension of time under 37 C.F.R. 1.136(a) and the accompanying fee are filed herewith. The Commissioner is hereby authorized to charge any such fees or credit any overpayment of fees to Deposit Account No. 19-0733.

Respectfully submitted,

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